

Note: This brochure has been modified for online use

PROTECTING COASTAL PROPERTY FROM MAJOR STORM DAMAGE

Massachusetts Department of
Environmental Protection



What to Do and
Who to Contact
Before Building
or Rebuilding
Near the Coast

Hurricanes and other storms regularly batter Massachusetts homes, jetties, boats, and seawalls, and everyday currents and tides slowly erode our beachfronts. Millions of dollars are spent on measures which simply can't protect against the next storm, or which inadvertently harm neighbors' property or the natural land formations which are our best form of protection against the sea.

In order to protect our public and private waterfront from the elements of nature -- and, in some cases, from the folly of our neighbors -- the Massachusetts Department of Environmental Protection (DEP) has a number of important laws which set minimal standards for coastal construction and reconstruction.

Although the standards contained in these laws are not necessarily mandatory for existing structures, property owners near tidal waters are encouraged to upgrade their properties -- insofar as practicable -- in order to avoid predictable damage from the recurrent storm events along our coast.



WHO DO I CONTACT BEFORE BUILDING OR REBUILDING?

- always contact your town/city *Building Inspector*;
- your town or city *Conservation Commission*, if the work could be in an area subject to the Wetlands Protection Act (see below);
- *the Department of Environmental Protection (DEP) Waterways Program*, One Winter Street, 8th Floor, Boston, MA 02108 (phone 617-292-5695), if the work could be in an area subject to Chapter 91 Waterways jurisdiction (see below); and

- your local *Board of Health* for work involving septic systems (see below).

The *Town Clerk* or other employees at City Hall can tell you how to reach each of the local boards and officials.

KEY RULES FOR BUILDING OR REBUILDING ON AND NEAR THE COAST

- *Contact appropriate local and state officials before beginning work:* See section of this brochure entitled “Who Do I Contact Before Building or Rebuilding?”
- *Residential Structures within the 100-year Floodplain (shown as “A” Zones on the FEMA maps):* lowest floors should be at or above the 100-year flood elevation, and built in accordance with the State Building Code (780 CMR 2102.00).
- *Structures in Velocity (V) Zones:* should be elevated on piles or columns so that the lowest portion of the horizontal beams beneath the lowest floor is at or above the 100 year flood elevation (see FEMA’s “Coastal Construction Manual”).
- *Septic Systems:* septic tanks and fields are generally not allowed in V Zones of beaches, dunes or barrier beaches. Replacement of old septic tanks or fields may in some cases be permitted if it is not feasible to move them out of the V Zone or above the 100 year flood elevation. (Title 5) [310 CMR 15.00]
- *All structures within the 100-year floodplain:* A Registered Professional Engineer must certify that the structure complies with the State Building Code.
- *Structures built on flowed or filled tidelands:* must not pose an unreasonable threat to navigation, public health or safety, or adjacent structures, if damaged or destroyed in a storm.
- *New buildings for human occupancy (except for marinas, ferry terminals, and other “water-dependent” uses)* must be able to withstand the 100-year frequency storm event and should incorporate projected sea level rise over its design life. The documented relative sea level rise rate in Massachusetts is approximately one foot rise for every 100 years. New or expanded residential structures in coastal high hazard areas may not be built seaward of mean high water mark. [310 CMR 9.37]

- *Structures within 100 feet of a coastal dune or bank:* must not affect the capacity of the dune or bank (or other area along the shore which gets sediment from the dune or bank) to protect against storm or flood damage. [310 CMR 10.28(3) & 10.30(4)&(6)]
- *Shoreline Protection Structures (seawalls, jetties, etc.):* when permissible under state law, must be designed so as not to increase sedimentation in channels and wetlands, starve downdrift beaches of sediments, or otherwise increase adverse impacts to neighbors. Use of nonstructural flood protection measures, where feasible, are usually more easily permitted by state and local authorities. [310 CMR 9.37]
- *Structures in the water (such as piers, docks, etc.):* must not alter bottom topography so as to increase storm damage or erosion of coastal beaches, banks, dunes or salt marshes. The state has a clear preference for pile supported structures. [310 CMR 10.25(5) & 10.27(3)&(4)]

STATE LAWS GOVERNING WORK ON AND NEAR THE COAST

Regulated by the MA Department of Environmental Protection

THE WETLANDS PROTECTION ACT

The Wetlands Protection Act and its Regulations, 310 CMR [Code of Mass. Regulations] 10.00, **protect natural resource areas which safeguard property owners from coastal storms** -- from salt marshes to coastal banks and dunes, from mud flats to the entire "100 year" coastal floodplain.

Which Property Owners are Subject to this Law?

Anyone building, working, or carrying on any other activity that "alters" natural areas which are within the "100 Year Floodplain" or 100 feet of a bank, beach, dune, or wetland. To determine whether property is located in the 100 year floodplain, consult the Flood Insurance Rate Maps (FIRMS) at your Town or City Hall. These maps also identify especially high hazard "Velocity" (or "V") Zones where wave heights can reach greater than 3 feet, as well as "AO" Zones (overwash areas where flooding can be 1 to 3 feet), where special precautions should be taken.

"CHAPTER 91" WATERWAYS

The "Chapter 91" Waterways Act and its Regulations, 310 CMR 9.00, **ensures** that new or unlicensed **structures on the waterfront** (including piers, seawalls, marinas and even some homes built on land areas which were previously "filled") **are structurally sound and are located in areas which minimize dangers to private and public property, to fishermen, and to recreational users of the waterways.**

Who is Subject to this Law?

Anyone who does not already have a valid Chapter 91 license, permit or other approval who builds, replaces, or maintains a structure or dredges in tidal **waters up to the mean high tide mark**. Also, anyone doing work on a **structure located on man-made fill near tidal water may be subject** to Chapter 91 requirements.

STATE ENVIRONMENTAL CODE TITLE 5: SEPTIC SYSTEMS

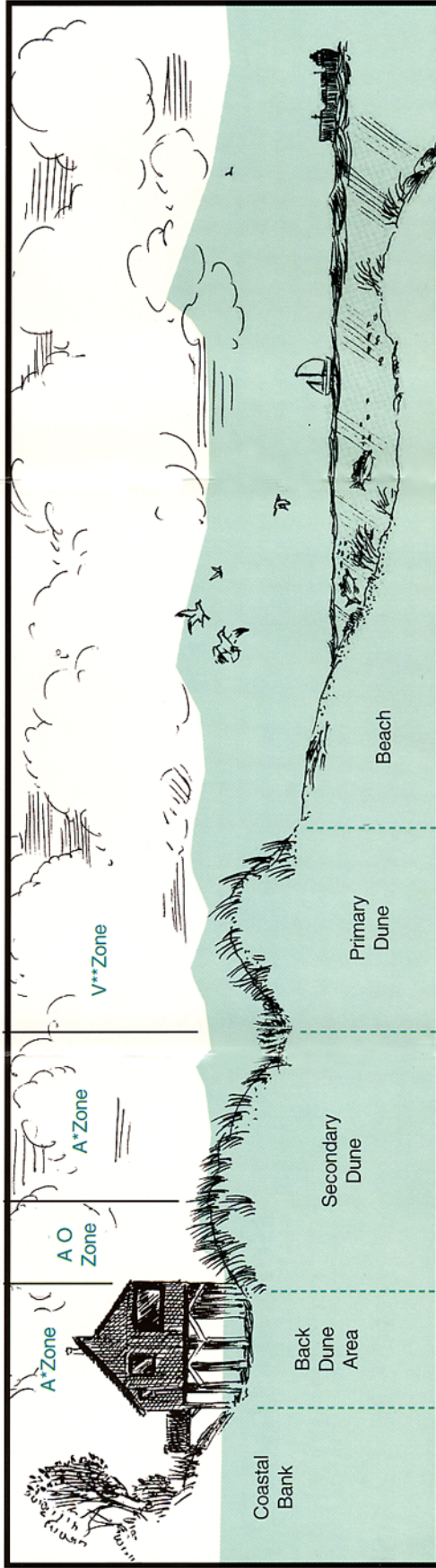
Title 5 protects coastal property owners and natural resources against pollution caused by septic systems destroyed by storms.

Who is Subject to this Law?

Anyone installing, replacing, reconstructing, repairing, expanding or upgrading an on-site sewage treatment and disposal system.



Cross Sectional Illustration of Some Coastal Resource Areas and Flood Zones

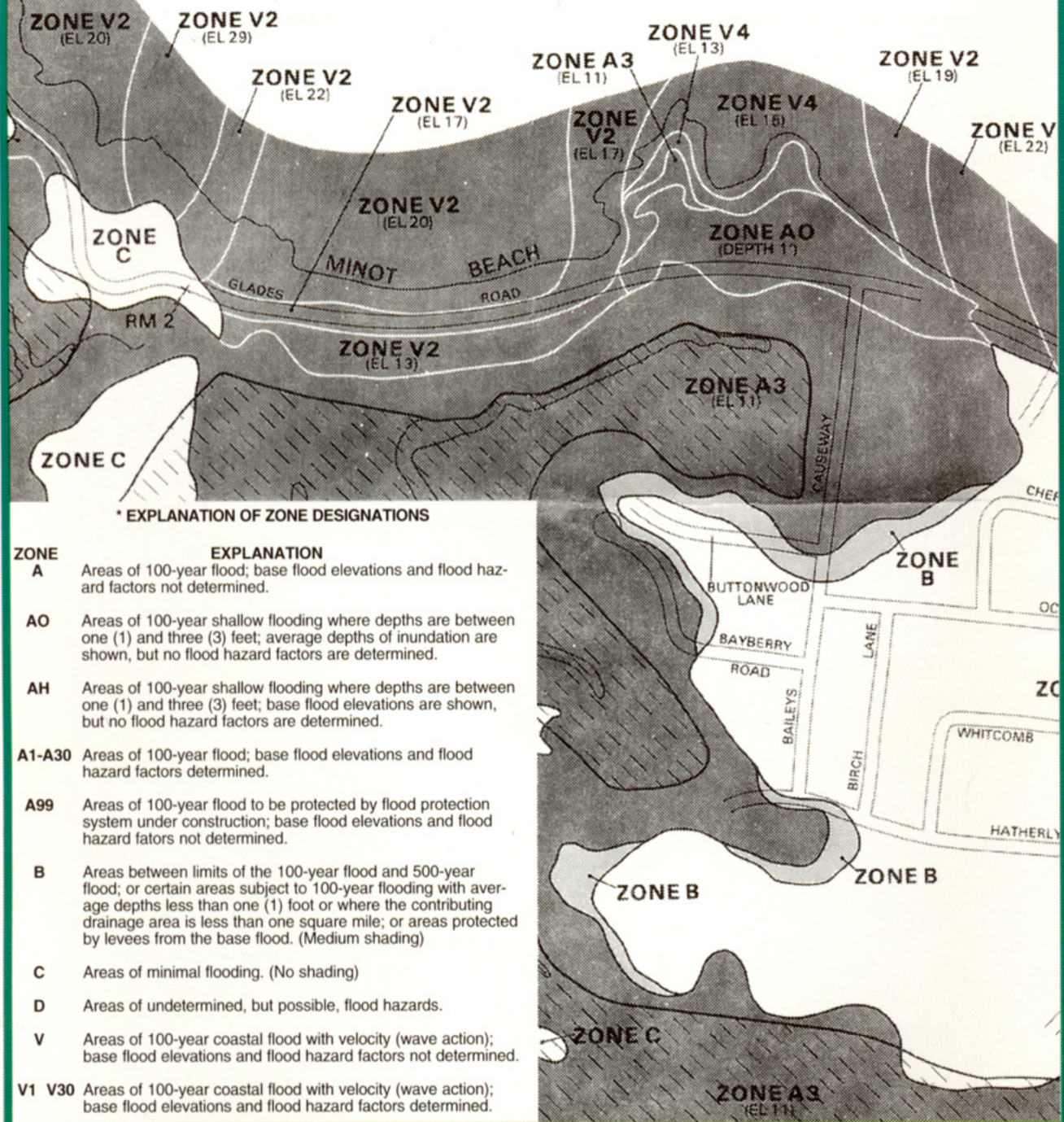


See the example of Flood Insurance Rate Map on the other side for definitions of the above zones.

* Includes A1-30, AE or AH

** Includes V1-30 or VE

An Example of a Flood Insurance Rate Map



Written By: Steven Pearlman, MA. DEP

Project Coordinator: Nancy Lin, MA. DEP

Illustrator: Dan Dailey

Photographers: © Cary Wolinsky, Fredrik Bodin and
Seth Resnick - Stock, Boston Inc.

Reviewers: Jim O'Connell, MA. Coastal Zone Management
Richard Zingarelli and Julia Venema, MA. Department of
Environmental Management, Flood Hazard Management
Program

Produced By



MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Bureau of Resource Protection

Division of Wetlands and Waterways

One Winter Street

Boston, Massachusetts 02108

This publication is made possible by a grant from the Federal
Emergency Management Agency, Hazard Mitigation Grant
Program administered by the Massachusetts Emergency Management Agency
and the Massachusetts Department of Environmental Management.